CLAIMS

What is claimed is:

1. A method of surveying a track, comprising the steps of:

a) positioning a first and a second measuring vehicle at end points, respectively, of a track section to be measured during a measuring cycle, the first measuring vehicle being designed for mobility independently of the second measuring vehicle which is stationary during the measuring operation;

b) determining, at the start of each measuring cycle, position coordinates of the stationary, second measuring vehicle, with the aid of a GPS receiver mounted thereon, relative to a fixedly installed GPS reference station located adjacent the track section to be measured, the coordinates of the GPS reference station being known within a terrestrial coordinate system;

c) setting up a reference line in the form of an optical measuring beam between an emitter mounted on the second measuring vehicle and a receiving unit mounted on the first measuring vehicle;

d) aligning the reference line with the first measuring vehicle on the basis of the determined position data;

e) advancing the mobile, first measuring vehicle in the direction towards the stationary, second measuring vehicle to carry out the track surveying operation; and

f) registering as a correction measurement value any change in position of the receiving unit mounted on the first measuring vehicle relative to the reference line.

2. A method of surveying a track, comprising the steps of:

- positioning a first measuring vehicle at a first end point of a track section to be measured during a measuring cycle;
- positioning a second measuring vehicle at a second end point of the track section, with the second end point having a known position with respect to a fixed reference point having an absolute coordinate;
- establishing an optical reference line between the two measuring vehicles;
- moving the first measuring vehicle in a direction of the second measuring vehicle by a predetermined distance and determining a displacement of the optical reference line perpendicular to a track direction;
- determining from the displacement of the optical reference line and the predetermined distance an absolute track location; and
- repeating steps d) and e) until the first measuring vehicle is in close proximity to the second measuring vehicle, thereby surveying the track section between the two end points.

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